SOLID-STATE ELECTRONICS

An International Journal

Author and Keyword Indexes
Volume 49, 2005

ELSEVIER

SOLID-STATE ELECTRONICS

FOUNDING EDITOR

Dr W. Crawford Dunlap

EDITORS

Professor Y. Arakawa
Institute of Industrial Science, University of Tokyo, 4-6-1 Komaba, Meguro-Ku, Tokyo 153-8505, Japan

Professor S. Cristoloveanu
LPCS-ENSERG, 23 Avenue des Martyrs, BP 257, F-38016, Grenoble Cedex 1, France

Professor E. Calleja
Departamento Ingeniería Electrónica – ISOM, ETSI Telecomunicación, Universidad Politécnica, Ciudad Universitaria, 28040 Madrid, Spain

Professor A. Zaslavsky
Division of Engineering, Brown University, Providence, RI 02912, U.S.A.

HONORARY EDITORIAL ADVISORY BOARD

A. G. Baca, *Albuquerque, NM*
G. Baccarani, *Bologna*
E. R. Brown, *Los Angeles, CA*
C. Bulucea, *Santa Clara, CA*
R. H. Eklund, *Dallas, TX*
D. K. Ferry, *Tempe, AZ*
J. G. Fossum, *Gainesville, FL*
G. Ghibaudo, *Grenoble*
K. L. Jensen, *Washington, DC*
R. F. Pierret, *W. Lafayette, IN*
F. Ren, *Gainesville, FL*
S. Ringel, *Columbus, OH*
M. Shur, *Troy, NY*
T. Sugano, *Tokyo*
M. Willander, *Göteborg*
C.-Y. Wu, *Hsinchu, R.O.C.*

Publishing Office

Elsevier Ltd., The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K.
(*Phone*: Oxford (01865) 843000; *Fax*: (01865) 843010).

Author Enquiries

For enquiries relating to the submission of articles (including electronic submission where available) please visit Elsevier's Author Gateway at http://authors.elsevier.com. The Author Gateway also provides the facility to track accepted articles and set up e-mail alerts to inform you of when an article's status has changed, as well as detailed artwork guidelines, copyright information, frequently asked questions and more.
Contact details for questions arising after acceptance of an article, especially those relating to proofs, are provided after registration of an article for publication.

Frequency: Published monthly

Subscription Rates

Annual Institutional Subscription Rates 2005. Volume 49 (12 issues): Europe, The CIS and Japan 2590 Euro. All other countries US$ 2897. Associated Personal Subscription Rates are available on request for those whose institutions are library subscribers. Euro prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice. Any enquiry relating to subscriptions should be sent to: **The Americas:** Elsevier, Customer Service Department, 6277 Sea Harbor Drive, Orlando, FL 32887-4800, USA; phone: (877) 8397126 or (800) 6542452 [toll free numbers for US customers]; (+1) (407) 3454020 or (+1) (407) 3454000 [customers outside US]; fax: (+1) (407) 3631354 or (+1) (407) 3639661; e-mail: usjcs@elsevier.com or elspcs@elsevier.com. **Asia Pacific (*excluding Japan*):** Elsevier, Customer Service Department, 3 Killiney Road, #08-01 Winsland House I, Singapore 239519; [phone: (+65) 6349-0222; fax: (+65) 67331510; e-mail: asianfo@elsevier.com]. **Rest of the World:** Elsevier, PO Box 211, 1000 AE Amsterdam, The Netherlands; phone: (+31) 20-4853757; fax: (+31) 20-485-3432; e-mail: nlinfo-f@elsevier.com.

Publication information: *Solid-State Electronics* (ISSN 0038-1101). For 2005, volume 49 is scheduled for publication. Subscription prices are available upon request from the Publisher or from the Regional Sales Office nearest you or from this journal's website (http://www.elsevier.com/locate/sse). Further information is available on this journal and other Elsevier products through Elsevier's website (http://www.elsevier.com). Subscriptions are accepted on a prepaid basis only and are entered on a calendar year basis. Issues are sent by standard mail (surface within Europe, air delivery outside Europe). Priority rates are available upon request. Claims for missing issues should be made within six months of the date of dispatch.

Copyright © 2005 Elsevier Ltd

USA mailing notice: *Solid-State Electronics* (ISSN 0038-1101), is published monthly by Elsevier Ltd. (The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK). Annual subscription price in the USA US$ 3049 (valid in North, Central and South America), including air speed delivery. Periodical postage rate paid at Rahway NJ and additional mailing offices.
USA POSTMASTER: Send change of address to *Solid-State Electronics*, Elsevier, 6277 Sea Harbor Drive, Orlando, FL 32887-4800.
AIRFREIGHT AND MAILING in the USA by Mercury International Limited, 365, Blair Road, Avenel, NJ 07001.

AUTHOR INDEX

Abdel-Hamid H. M., 1163
Abonnenc M., 674
Achard H., 529
Acred B., 1722
Adamu-Lema F., 740
Adesida I., 774
Afzal B., 1262
Afzali-Kusha A., 1262, 1341
Agarwal A. K., 233, 2011
Aggarwal S. Kr., 1206
Agrawal S., 1396
Ahopelto J., 1504, 1516
Ahsan A. K. M., 654
Akil N., 1849
Akturk A., 1127
Alexander C., 733
Alivov Ya. I., 1693
Allen S. J., 1049
Altindal Ş., 1052
Altomare L., 674
Ambrico M., 413
Amirabadi A., 1262
An X., 479
Ancona M. G., 1875
Anderson S. G. H., 1722, 1754
Andrieu F., 721
Anil K. G., 763
Appenzeller J., 73
Armstrong B. M., 1461
Armstrong G. A., 1034
Arulkumaran S., 1632
Asano T., 2006
Asenov A., 733, 740
Ashburn P., 529, 1556
Ataee Naeini M., 871
Atarodi S. M., 1198
Aubry-Fortuna V., 1320
Augelli V., 413
Avrutin V., 1693
Ayers J. E., 2002
Aytur O., 117
Aziz M. S., 1314

Bach K. H., 618
Bae J., 1576
Bae J. W., 774
Baek C. H., 1335
Baek M. K., 1107
Bagnall D. M., 529, 1556
Baik H. K., 205, 838
Baine P., 1461
Bakeroot B., 363
Baks W., 1849
Balmer R. S., 279
Balucani M., 1251
Bandhawakar G., 628
Banerjee M., 1282
Banerjee S. K., 860, 1248
Banoushi A., 871
Bardou N., 1655
Bardwell J. A., 802
Barraud S., 1090
Baruffa M., 674
Bassim N. D., 251
Basu S., 1158
Bawedin M., 1547
Bayhan H., 991
Behnam A., 1341
Belford R. E., 986
Belhaj M., 956
Belleville M., 1466
Ben Assayag G., 1198, 1734
Benech P., 1477
Benistant F., 1241
Bennett B. R., 1875
Berthelot A., 1767
Beurze R., 1849
Bhat N., 431
Bhatnagar P., 453
Bian E. L., 473
Bianconi M., 183
Bindra S., 558
Biyikli N., 117
Boeck B., 1767
Bol D., 1185
Boltovets M. S., 1228
Bonafos C., 1734
Boos J. B., 1875
Borgarino M., 1361
Bortesi L., 1805
Boschi G., 1791
Bouchakour R., 1759
Bouchiat V., 1497
Boudart B., 1589
Bougrioua Z., 1589
Boukhenoufa A., 1376
Bowman T., 1978
Boyd D. C., 1669
Bramlett M., 1708
Brandes G. R., 1330
Bremond G., 1112
Bresson N., 1522
Breuil L., 1862
Brown A. R., 733
Brunco D. P., 1841
Bruno G., 413
Buckley J., 1833
Bude J., 790
Bui S., 981
Buiu O., 1556
Buonocore F., 1820
Bychikhin S., 421

Cabassi M. A., 227
Caddemi A., 915, 928
Cai B., 940
Cai J., 1669
Cai Q., 1951
Caillat C., 1767
Calvetti E., 567
Campabadal F., 1536
Campera A., 1745
Candelier P., 1759
Capezzuto P., 413
Carceller J. E., 1454
Carrada M., 1734
Casao Pérez J. A., 612
Celi D., 1623
Cerdeira A., 1009
Chakrabarti P., 1396
Chan A. C. K., 554
Chan H. Y., 1241
Chan K. K., 1669
Chan L., 1241
Chan M., 554, 1405, 1933
Chang K.-M., 1381
Chang K. M., 1722
Chang P. C., 459, 1347, 1708
Chang S.-C., 437, 1937
Chang S. J., 459, 1077, 1347
Chen B., 853
Chen C., 459
Chen C. H., 459, 1347
Chen H., 1669
Chen L., 1081
Chen M., 981
Chen P. C., 459, 1347
Chen Q., 271
Chen S., 940
Chen S. M., 37
Chen S.-M., 1905
Chen T. L., 267
Chen T. S., 1387
Chen W. B., 37
Chen Y.-B., 1921
Chen Y.-J., 163
Chen Y.-M., 808
Chen Y.-W., 163
Cheng B., 740
Cheng C.-C., 1381
Cheng X., 43
Cherkashin N., 1734
Chernyak L., 1662
Chiang T. K., 317
Chiang Y.-C., 1391
Chikichev S. I., 385
Chiu H.-C., 1391
Chiu S.-Y., 357
Cho H. K., 774
Cho N.-K., 1297
Choi C.-J., 1213
Choi J. B., 795
Choi S., 377
Choi S. H., 205, 838
Choi W.-K., 524
Choi Y.-I., 834
Chou J. H., 1071
Chow D., 981
Christiansen S. H., 1669
Chu B., 1956
Chu J. O., 1669
Chu J. P., 3
Chu J.-Y., 1381
Chu S. N. G., 790
Chu Y.-C., 357
Chuang R. W., 1347
Chun S. K., 31
Chung I.-J., 1107
Chung S.-K., 834
Chung U-I., 377
Chung Y. H., 37
Ciechonski R. R., 1917
Claeys C., 702, 1274, 1536
Clavelier L., 1090
Claverie A., 1198, 1734
Coffin H., 1198, 1734
Colalongo L., 567
Collaert N., 673, 763, 1488
Colombeau B., 618, 1168
Combe M., 1867
Conoci S., 1820
Cooper Jr. J. A., 351
Coppens P., 1370
Cordier C., 1376
Cortés I., 965
Cova P., 183
Cowern N., 618
Cowern N. E. B., 1168
Crespo A., 670
Cressler J. D., 329, 986
Cristiano F., 1168
Cristoloveanu S., 1522, 1547
Crouse D., 1697
Crupi G., 928
Cui J., 1044

doi:10.1016/S0038-1101(05)00336-9

Cui T., 445, 853, 884
Cui Z., 505, 1702

Dabiran A., 1662
Daga J.-M., 1867
Dakhel A. A., 562, 1996
d'Alessandro V., 1098
Dalla Betta G.-F., 175
Damlencourt J. F., 1833
Das M. K., 1017, 1228
Das N. C., 1422
Davenport B., 1978
Davidson J. L., 1055
Dawei Z., 1581
De Gezelle V., 1947
De Jaeger J. C., 535
De la Torre J., 1112
De Meyer K., 673, 763, 1488
De Nisi F., 175
de Souza M., 1683
Degraeve R., 695
Dehaene W., 1776
Dehan M., 67
Del Cañizo C., 49
Deleonibus S., 529, 1833
Deleruyelle D., 1728
Delos E., 1589
Deng Y. Z., 199
Denison M., 421
DeSalvo B., 1728
Despotopoulos S., 591
Dey S., 227, 1248
Dimitrakis P., 1734
Dimitriadis C. A., 513
Dixit A., 763, 1488
Djezzar B., 1617
Do Q. T., 1986
Dobrovolsky V. N., 1251
Doğan S., 1693
Dokholyan J. G., 634
Dollfus P., 1320
Donato N., 928
Dorda U., 1799
Dormans D., 1849
Doutreloigne J., 363, 1943
Dreeskornfeld L., 1799
Drummond A., 1185
Du G., 1942
Duan B., 1965
Ducatteau D., 1589
Dutta S. K., 1282

Eddy Jr. C. R., 251
Edwards A., 251
Egawa T., 1632
Eimitsu M., 818
Ekpunobi A. J., 667
Elattari B., 1370
El-Ghamaz N. A., 1314
Elkhou M., 535
El-Nahass M. M., 1314
El Nokali M., 1341
Eminente S., 727
Emonet N., 1767
Enz C., 485
Ernst T., 529, 721, 1090
Esame O., 1055
Esseni D., 727, 1529
Estrada M., 1009
Evans A. G. R., 529
Exshaw O., 1477

Fang J., 1135
Farcy A., 1477
Fardi H. Z., 663
Farella I., 413
Fathi E., 1341
Feldman I., 1662
Ferguson I. T., 1986
Ferrante G., 915
Ferrari A., 1251
Ferrarini V., 674
Ferraton S., 1497
Fiegna C., 727
Fields C., 981
Fitch R., 670
Flandre D., 708, 1185, 1488, 1547, 1569, 1683
Flatresse P., 1466
Flores D., 77, 965, 1309
Flynn J. S., 1330
Fobelets K., 591
Forment S., 606, 878
Förster A., 245
Fossum J. G., 595
Fournier J. M., 1466
Fraboulet D., 1767
Fregonese S., 1623
Fu Y., 1693
Fujihira K., 896
Fukeda K., 818
Furuya M., 1233

Galdin-Retailleau S., 1320
Gamble H. S., 1461
Gámiz F., 1504
Gamiz F., 1453, 1516
Gangopadhyay U., 1282
Gaquière C., 1589
García Sánchez F. J., 465, 640
Garrido B., 1112
Gartsman K., 1662
Gasquet H. P., 1722
Gaudissart A., 1185
Geens P., 1776
Gehring A., 1510
Gelmont B., 257
Gely M., 1728, 1833
Gerard H., 535
Germain M., 1589
Gerritsen E., 1713, 1767
Ghannouchi F. M., 1909
Ghetti A., 1805
Ghibaudo G., 721, 1833
Ghosh D., 1649
Giacomini R., 1255
Gilbert N. E., 1813
Gildenblat G., 267
Giles L. F., 618
Gillespie J., 670
Godoy A., 1504
Goghero D., 369
Goldsman N., 145, 1127
Gombia E., 183
Gómez-Campos F. M., 1454
Gong J., 459
Gonzo L., 175
Gopalan C., 1813
Gorev N. B., 343
Gornik E., 421
Goullet A., 369
Govoreanu B., 695, 1841
Grandchamp B., 956
Grekhov I. V., 1192
Grieb M., 716
Grisolia J., 1198
Groeseneken G., 695, 1370
Groos G., 421
Grundmann M., 1446
Gu S. L., 199
Gu X., 1693
Guerrieri R., 674
Guhel Y., 1589
Guichaoua J., 1867
Guillot G., 1112
Guo Y., 1961
Gupta G., 1396
Gupta M., 167, 301, 1206
Gupta R., 167, 1206
Gupta R. S., 167, 301, 558, 1206, 1639
Gurbuz Y., 1055
Guy O. J., 1081

Haffouz S., 802
Haibach P., 618
Haldar S., 558, 1206
Hall S., 1556
Hallgren R., 1978
Hamilton J., 1722
Hamilton P., 1978
Han J., 63
Han J. H., 1857
Han P., 199
Han R., 1942
Han Z., 145
Hao Z., 1581
Harame D. L., 329
Hariharan G., 1604
Hashemi P., 1341
Hashiguchi S., 865
Haspeslagh L., 1862
Hassoune I., 1185
Hastas N. A., 513
Haugerud B. M., 986
Hazra S. K., 1158
He Y., 57, 63
Heijmen T., 1783
Hellström P.-E., 907
Hemment P. L. F., 529
Henry R. L., 251
Hidalgo S., 77, 965, 1309
Hilton K. P., 279
Hiramoto T., 997
Hoffman R. L., 648
Hofmann F., 716, 1799
Holm R. H., 251
Hong H.-G., 1986
Horing N. J. M., 1049
Horsfall A. B., 453
Hossain T., 774
Hossein-Zadeh M., 1428
Hou C.-C., 1905
Houdt J. V., 1862
Houng M.-P., 213
Hradsky B., 1722, 1754
Hsin Y. M., 295
Hsing I.-M., 1933
Hsu E. M., 802
Hsu H. T., 295
Hsu R.-T., 163
Hsu W.-C., 163
Hu G. X., 1387
Hu Z., 1956
Hu Z. F., 847
Huang C.-H., 1599
Huang C.-L., 219, 1921
Huang C.-Y., 1925
Huang F. Y., 473
Huang R., 479
Huang Y., 940
Hull B. A., 1228
Hung H., 1347
Hwu J.-G., 1599

Iafelice B., 674
Iannaccone G., 1745

Ielmini D., 1826
Igic P., 1081
Igic P. M., 1217
Imaizumi M., 896
Ingvarson F., 275
Iñiguez B., 1683
Iñiguez B., 965, 1009
Ioffe V. M., 385
Ion Lepsa M., 245
Ionica I., 1497
Ishikawa H., 1632
Issaoun A., 1909
Ivanov P. A., 233, 1228, 2011
Iwai H., 825, 1522

Jacob B., 1002
Jain F. C., 2002
Jakšić A. B., 1140
Jang K. Y., 1674
Jankovic N., 1086
Janssens E., 747
Jennings M. R., 1081
Jennison M. J., 1708
Jensen N., 421
Jeong S. M., 205, 838
Jeppson K. O., 275
Jerisian R., 1617
Jessen G., 670
Jhou Y. D., 1347
Jiang J., 1951
Jiang N., 473
Jiang R. L., 199
Jiang Y.-L., 606
Jiao G., 1387
Jiménez D., 965
Jiménez-Tejada J. A., 1454
Jin H. M., 1241
Jin M., 1461
Jin Z., 409
Jindal R. P., 976
Jit S., 141, 628
Jo S. J., 205
John V. S., 3
Johnson C. M., 453
Jordan-Sweet J. L., 1669
Joseph A. J., 986
Joshi S., 1248
Jourdan N., 1767
Jung S.-P., 1986
Jung Y.-S., 1107

Kagganti S. P., 275
Kalra P., 1396
Kamaev G. N., 9
Kamarinos G., 513
Kang B. K., 1335
Kang H., 1107, 1982
Kang I.-H., 19
Kang J., 1942
Kang W. P., 1055
Kang Y., 1135
Kapoor A., 976
Kar G. S., 449
Karataş Ş., 1052
Kardan M. R., 871
Kartaloglu T., 117
Kasturi P., 1639
Kasuga M., 1233
Kauerauf T., 695
Kavak H., 578
Kawase K., 896
Kechiyantz A. M., 634
Khairurrijal, 923
Khoroshilov K. Yu., 9
Khuchua N., 343
Khudaverdyan D. S., 634
Khudaverdyan S. Kh., 634
Khvedelidze L., 343
Kilchytska V., 708, 1488
Kim B., 1576
Kim C., 1857
Kim C.-D., 1107
Kim D. S., 1674
Kim D.-Y., 524
Kim J. H., 795, 1857
Kim J.-H., 19
Kim K. C., 1674
Kim K.-Y., 239
Kim M. D., 1674
Kim S.-D., 131
Kim S.-H., 595
Kim S.-I., 497
Kim S.-J., 1153
Kim T. G., 1674
Kim W.-B., 19
Kim Y., 825
Kim Y. T., 497
Kimukin I., 117
Kirsten D., 1484
Kiru V., 1
Klemenc M., 1002
Kloes A., 85
Knoch J., 73
Kocharyan A. A., 634
Kodzhespirova I. F., 343
Koga J., 684
Koh J. H., 1674
Kolendo A., 585
Komiya K., 1118
Kömmling R., 1799
Kong Y. C., 199
Koo W. H., 205, 838
Koolivand Y., 1262
Kosina H., 1510
Koteeswara Reddy N., 902
Kouki A. B., 1909
Kovács-Vajna Zs. M., 567
Kozicki M. N., 1813
Kretz J., 1799
Krishna D., 1604
Kristiansson S., 275
Krithivasan R., 986
Krivutsa V. A., 1228
Krummenacher F., 485
Kruppa W., 1875
Kruseman B., 1783
Kudoh T., 2006
Kumar A., 141, 997
Kumar Gupta S., 141
Kumar Aggarwal S., 167
Kwok P. C. K., 25
Kwon Y. S., 497

Labat N., 956
Lacaita A. L., 1826
Lafond D., 1728
Lago-Aurrekoetxea R., 49
Lai P. T., 25, 1223
Lalitha S., 813
Lallement C., 485
Lampin E., 1168
Landesman J. P., 369
Landgraf E., 716
Le Coz Y. L., 1604
Lederer D., 491, 1488
Ledezma J. C., 1722
Lee C. T., 459
Lee D.-H., 377
Lee H.-C., 1172
Lee H. P., 1986
Lee H. Y., 459
Lee J.-H., 377, 524
Lee K., 1107
Lee K.-W., 213
Lee S. H., 1857
Lee S.-J., 205
Lee S.-K., 1297
Lee S.-W., 1107
Lee S. W., 1674
Lee T., 1982
Lee W.-K., 554, 1405
Legat J. D., 1185
Leonardi A., 674
Leroy W. P., 878
Letertre F., 1522
Levacq D., 708, 1185
Levi A. F. J., 1428
Levinshtein M. E., 233, 1228, 2011
Lew K. K., 227
Li B., 25, 1956
Li B.-Z., 606
Li C., 399
Li J., 1933
Li J. M., 1387
Li J. P., 1387
Li M., 1956
Li P., 2002
Li R., 1974
Li W., 1956
Li X., 1900
Li Z., 1965
Liang G., 884
Liang J. W., 847
Liang Q., 329
Lien C., 808
Ligonzo T., 413
Lijadi M., 1655
Lilin T., 1581
Lim K. M., 1107
Lim T. C., 1034
Lin C. H., 1708
Lin C. L., 37
Lin C.-K., 145
Lin L. M., 1223
Lin S.-H., 1921
Lin T. K., 1077
Lin Y.-S., 163
Linton D., 1461
Liot V., 1466
Liou B.-W., 437, 1937
Liou J. J., 505, 1702
Lipponen V., 1714
Liu B. Y., 25
Liu C., 1693
Liu C. H., 1077
Liu C.-K., 1172
Liu F.-Q., 1961
Liu J., 63, 1044, 1974
Liu J.-Q., 1961
Liu X., 1942
Liu Y., 445, 853
Liu Z. S., 847
Lloyd N. S., 529
Lo H. B., 1223
Lopatiuk O., 1662
Lorenzini M., 1862
Lorke A., 1990
Losurdo M., 413
Lu C.-Y., 351
Lu H.-T., 1595
Lu J., 193, 1044
Lu W., 1330
Lu X.-Z., 1961
Lu Y., 986
Lucci L., 1529

Lun Ng A. F., 1405
Lüth H., 245
Luque A., 49
Luyken R. J., 716

Maes H., 695
Magno R., 1875
Mahajan A., 945
Mahalingam T., 3
Mahapatra R., 449, 524
Mahata C. R., 1649
Maikap S., 449, 524
Maity T., 1649
Majumdar D., 1282
Makimura T., 1352
Malingre P., 1759
Malm B. G., 907
Malmström J., 1410
Manaresi N., 674
Mandelis A., 769
Maneux C., 956, 1623
Mangla T., 301
Mantegazza D., 1826
Mantl S., 73
Maple M., 1708
Mariani R., 1791
Marsal L. F., 1009
Martin F., 1833
Martin T., 279
Martino J. A., 109, 1255, 1274, 1569
Masson P., 1713, 1759
Mastro M. A., 251
Matsui T., 865
Mawby P. A., 1081
Mayer T. S., 227
Mazarredo I., 1309
Mazhari B., 311
Mazoyer P., 1713, 1759, 1767
Mazurié C., 1522
Medoro G., 674
Meindl J. D., 271
Menon N., 1396
Menozzi R., 183
Mercha A., 702, 1536
Metze G., 1127
Meuris P., 747
Michaud J. F., 1376
Michelakis K., 591
Minakata H., 137
Miranda A. H., 1849
Missous M., 279
Mitrovic I. Z., 1556
Mitsumori A., 1233
Mizuno T., 684
Mnatsakanov T. T., 2011
Moens P., 363, 1370
Mohammed F., 1461
Mohney S. E., 227
Molas G., 1728
Molzer W., 618
Montès L., 1497
Montanari S., 245
Moon G. W., 1674
Moon J. T., 377
Moon J.-W., 834
Moon Y., 1693
Mooney P. M., 1669
Morante J. R., 1112
Moriguchi K., 1118
Morkoç H., 1693
Mosca R., 183
Muci J., 640
Mueller K., 1414
Müller T., 1990
Muralidhar R., 1722, 1754

Nagumo T., 997
Nakaharai S., 684
Nakamori Y., 1118
Nayeem M. B., 986
Ndagijimana F., 1477
Nener B. D., 1969
Neuilly F., 1849
Neumann S., 409
Ng A. F. L., 1405
Ng K. K., 790
Nicotra G., 1833
Nishiyama A., 155
Niu G., 329
Niu J., 1956
No Y. S., 524
Nokali M. E., 1262
Noor F. A., 923
Normand P., 1734
Nuernbergk D., 1484
Numata T., 684

Oh T. K., 1335
Ohmi S.-i., 825
Ohtou T., 997
Ohtsuka K.-i., 896
Ólafsson H. Ö., 545
Olsson J., 907, 1410
Olver K., 1422
Omura Y., 1118
O'Neill A. G., 453
Ono M., 155
Opsomer K., 878
Ortiz C. J., 1168
Ortiz-Conde A., 465, 640
Oshita F. K., 1708
Osinsky A., 1662
Osipov A. V., 1251
Osiyuk I. N., 545
Osman K., 529
Östling M., 193, 907
Oussalah S., 1617
Ozbay E., 117
Ozeki and T., 896
Özgür Ü., 1693

Paillard V., 1734
Pal B. B., 628
Pal S., 524
Palestri P., 727, 1529
Pallares J., 1009
Palmour J. W., 233, 1228, 2011
Pancheri L., 175
Pandey P., 141
Pantisano L., 702
Papaix C., 1867
Papavassiliou C., 591
Pardo F., 1655
Parish G., 1969
Park C.-M., 131
Park H.-D., 1297
Park I., 31
Park J., 1107
Park J. H., 497
Park J. I., 1674
Park T.-S., 377
Parker L., 1127
Parkhurst R., 1708
Pavanello M. A., 1274, 1569, 1683
Pavelka J., 865
Pavlidis D., 1352
Pejčinović B., 1414
Pejović M. M., 1140
Pellizzer F., 1826
Pelouard J.-L., 1655
Peschke J., 1722

Pesic T., 1086
Petit C., 1002
Petralia S., 1820
Petranovic D. M., 1604
Philip Wong H.-S., 755
Piazza M., 1767
Pichon L., 1376
Pirovano A., 1820, 1826
Pogany D., 421
Poncet A., 1112
Pool F. S., 1978
Popov V. V., 1049
Portesine M., 183
Prégaldiny F., 485
Principato F., 915
Prinz E. J., 1722, 1754
Privalov E. N., 343
Prost W., 409
Prunnila M., 1504, 1516
Puigdollers J., 1009
Pulfrey D. L., 1969

Qian M. R., 323
Qu X.-P., 606

Rabago F., 769
Racape E., 1867
Rafi J. M., 1536
Rajagopal Reddy V., 1213
Rajavel R., 981
Ramakrishna Reddy K. T., 902
Ramesha Reddy N., 1213
Ranica R., 1759
Rao R., 1754
Rao R. A., 1722
Raskin J.-P., 67, 491, 1488, 1569
Ray S. K., 449, 524
Raynaud C., 1477
Rebollo J., 77, 965, 1309
Redwing J. M., 227
Reggiani L., 405
Register L. F., 860
Reisinger H., 716
Reklaitis A., 405
Reséndiz L., 1009
Richard O., 1477
Richter S., 1484
Rim K., 1669
Rinkenberger G., 1722
Risch L., 716, 1799
Ristić G. S., 1140
Robertson J., 283
Rodin P., 421
Rodríguez-Bolívar S., 1454
Rodriguez A., 2002
Roenker K. P., 1292
Roig J., 77, 965, 1309
Rolfe S., 802
Romani A., 674
Romanjek K., 721
Rooyackers R., 763
Roozeboom F., 618
Rösner W., 716, 1799
Rousseau M., 535
Roy A., 485
Roy G., 740
Roy S., 740
Royter Y., 981
Ru G.-P., 606
Ruan J., 1044
Rudenko T., 1488
Rudenko T. E., 545

Sadd M., 1722, 1754
Saha H., 1282

Sakota T., 137
Sallese J.-M., 485
Salvo B. D., 1833
Saminadayar L., 1497
Sampathkumaran R., 1292
Sampedro C., 1504
Sangiorgi E., 727
Sannuti P., 1900
Sathyamoorthy R., 813
Saxena M., 1639
Scandiuzzo M., 175
Schaefer H., 618
Schamm S., 1734
Schiavulli L., 413
Schoenmaker W., 747
Schroder D. K., 654
Schuh D., 1990
Schulz T., 716
Schwierz F., 889
Seegebrecht P., 779
Sehgal A., 301
Selberherr S., 1510
Selmi L., 727, 1529
Senthilarasu S., 813
Şentürk E., 935
Seong T.-Y., 1986
Sertap Kavasoğlu A., 991
Shalchian M., 1198
Shanks H., 578
Shao X., 1435
Shen B., 199
Shen D., 43
Shen G., 2016
Shen X. M., 847
Sheng K., 1900
Shi B., 981
Shi L., 1896
Shi W., 1044
Shi X., 1179
Shi Y., 63, 199
Shigekawa N., 1352
Shih C.-H., 808
Shim S. I., 497
Shiojima K., 1352
Shiramizu T., 896
Shu X., 2016
Shulekin A. F., 1192
Shur M. S., 343
Sialelli V., 1867
Sijerčić E., 1414
Sikula J., 865
Simoen E., 702, 1274, 1536
Simoni A., 175
Sjöblom G., 1410
Skotnicki T., 1759
Skromme B. J., 945
Slotboom M., 1849
Smith S., 1767
Sochacki M., 585
Sokolich M., 981
Solomon R., 1697
Song J., 1330
Song J.-I., 19
Song J.-O., 1986
Song K. M., 205
Song Z., 43
Sonnenberg V., 109
Sotgiu R., 1820
Souifi A., 1112
Specht M., 716, 1799
Spetz A. L., 1297
Spirito P., 1098
Srinivasaiah H. C., 431
Srinivasan M. P., 1241
Städele M., 1799
Starke T. K. H., 1217
Stecher M., 421
Steimle R. F., 1722, 1754
Stoppa D., 175
Strathman S. D., 1708
Straub S., 1722, 1754
Stuchinsky V. A., 9
Su Q., 1044
Su S.-H., 1905
Su Y. K., 37, 459, 1347
Subbarayan A., 813
Sugiyama N., 684
Suh E.-K., 1297
Sukirno, 923
Sulima P. Y., 1623
Sun W., 1896
Sun X., 399, 1956
Sun Z., 1896
Suzuki K., 137
Sveinbjörnsson E. Ö., 545
Sverdlov V., 1510
Swift C. T., 1722, 1754
Syväjärvi M., 1917
Sze P.-W., 213
Szmidt J., 585

Tacano M., 865
Takagi K., 1449
Takagi S.-i., 684
Takami T., 896
Tamura Y., 137
Tan C., 57
Tanimura J., 896
Tang H., 802
Tang J. J., 1405
Tang W. B., 295
Tanuma N., 865
Tartagni M., 674
Tarui Y., 896
Tassis D. H., 513
Tay K.-W., 219
Taylor S., 329
Tegude F. J., 1990
Tegude F.-J., 409
Tekin I., 1055
Tello P. G., 1849
Teperik T. V., 1049
Terada K., 818
Tezuka T., 684
Thomas III S., 981
Tian Z., 2016
Tikhonov R. D., 1302
Tinella C., 1477
Tobias I., 49
Tois E., 193
Torres J., 1477
Touboul A., 956
Toumazou C., 591
Towner F., 1422
Triantafyllou A., 1477
Tsai J.-H., 357
Tseng H. C., 1071
Tsou C.-C., 1595
Tsutsui G., 997
Tsutsui K., 825
Tuominen M., 193
Turin V. O., 1678
Turudic A., 1978
Tut T., 117
Twigg M. E., 251
Tyaginov S. E., 1192
Tyagulski I. P., 545

Uang K.-M., 437, 1937
Uchida K., 684
Uneus L., 1297
Unlu M. S., 117
Uren M. J., 279
Urresti J., 77, 1309

Vainonen-Ahlgren E., 193
Valizadeh P., 1352
Van Calster A., 1947
Van den bosch G., 1370
van Duuren M., 1849
Van Houdt J., 1841
Van Meirhaeghe R. L., 606, 878
van Schaijk R., 1849
Vancaillie L., 708
Varahramyan K., 853, 884
Vassilevski K. V., 453
Velampati R., 2002
Vellas N., 1589
Veloso A., 763
Vendrame L., 1805
Verschaeve M., 747
Vexler M. I., 1192
Via G., 670
Vihmalo J.-P., 1714
Vilches A., 591
Villaret A., 1759
von Haartman M., 907
Vos J. D., 1862
Voz C., 1009
Vulto P., 674

Wahab Q., 1917
Waite A. M., 529
Wang C. H., 459
Wang C. M., 1387
Wang D. Z., 323
Wang H. C., 37
Wang J. X., 1387
Wang L., 271, 1044
Wang S. M., 1347
Wang S.-J., 437, 1933
Wang X. L., 1387
Wang Y., 97, 227, 479, 529, 1029, 1933
Wang Y.-H., 213
Wang Z.-G., 1961
Watling J. R., 733
Webb J. B., 802
Wee D., 1969
Wegscheider W., 1990
Wei J., 1708
Wells A. M., 279
Werbowy A., 585
Westlinder J., 907, 1410
White B. E., 1754
White M. H., 97, 1017
White Jr. B. E., 1722
Wiatr M., 779
Wilhelmi C., 1708
Wilk G. D., 790
Wilks S. P., 1081
Witzigmann B., 1002
Wohlmuth W. A., 1978
Wong H., 505
Wong M., 1179
Woo J. C. S., 131
Woolard D., 257
Wright N. G., 453
Wu C.-S., 1391
Wu D., 193, 907
Wu L., 219
Wu X., 1029
Wu Y.-H., 163
Wu Z. H., 25

Xia T.-S., 860
Xia Y., 1044
Xia Z., 1942
Xie Y., 1029
Xu C., 1933, 2016
Xu M., 57
Xu Y., 1135

Yakimova R., 1917
Yamaguchi M., 137
Yan F., 1900
Yang B., 790
Yang B. L., 1223
Yang H., 847
Yang L., 517, 1029
Yang W., 43
Yang Y. Y., 1669
Yano K., 1233
Yarlagadda B., 2002
Yater J. A., 1722, 1754
Ye P. D., 790
Yokoyama M., 1595, 1905
Yoo J. S., 1107
Yoo J.-S., 1107
Yoon E., 377
Yoon J.-M., 1107
Young E., 702
Yu C., 517
Yu C. L., 459, 1347
Yu W., 399
Yu Y., 43
Yu Z., 1435
Yuan S. C., 123
Yue Y., 505
Yun J. G., 1547
Yurkov S. N., 2011

Zahabi A., 1262
Zayko Yu. N., 1049
Zeng Y. A., 1017
Zeng Y. P., 1387
Zeyada H. M., 1314
Zhang B., 1965
Zhang F., 399
Zhang R., 199
Zhang S.-L., 193
Zhang W., 257, 529
Zhang X., 479
Zhang Y., 517
Zhang Z., 1956
Zhao D., 1135, 1974
Zhao D. G., 847
Zhao H., 1029
Zhao J. H., 1900
Zheng X. R., 25
Zheng Y. D., 199
Zhiping Y., 1581
Zhou C. H., 199
Zhou S., 1951
Zhu C., 63, 986
Zhu K.-P., 357
Zhu M., 853, 884
Zhu S., 606
Zhu Y., 1974
Zimmer T., 1623
Zimmermann J., 1497

KEYWORD INDEX

A. Confinement energy, 940
A. Oxidized porous silicon, 940
Absorption, 1112
Ac conductivity, 1163
Accumulation, 779
Additional electric field modulation, 1965
Adjustable dynamic range, 1933
ADSL line-driver, 1947
AFM lithography, 1497
Air-gap, 558
Al composition, 1352
Al drive-in, 49
Al_2O_3, 907
ALD, 1767
AlGaAs, 1674
AlGaAs barrier, 245
AlGaInP, 37
AlGaN, 117, 279, 1330
AlGaN/GaN, 612, 670, 1589
AlGaN/GaN HEMTs, 1632
Alpha-particles, 1783
Amorphous silicon, 578
Amplitude noise, 1449
Analog applications, 708
Analog circuits, 1569
Analog simulation, 1683
Analogue, 1488
Analogue electronics, 591
Analytical capacitance model, 1262
Analytical model, 43, 311, 567
Analytical modeling, 301
Analytical models, 1309
Antimonide, 1875
Aspect ratio, 834
Asynchronous amplifiers, 1947
ATLAS software, 1639
Atomic layer deposition, 790, 1767
Atomic layer deposition (ALD), 193
Atomistic, 733
Auger recombination, 1414
Avalanche breakdown phenomenon, 535
Avalanche-noise, 405
Avalanche photodiode, 871
Avalanche photodiodes, 1697
Avalanche transistor, 421

Backpropagation neural network, 1576
Back surface field, 49
Ballistic, 1090, 1435
Ballistic double-gate MOSFETs, 1951
Ballistic transport, 684
Bandwidth-efficiency, 117
Barrier height, 695
Barrier height inhomogeneity, 606
Barrier height lowering, 654
Biaxial, 986
Bilayer, 311
Binary collision approximation, 1241
Bipolar junction transistor, 663
128-bit data, 1867
BJT, 554
Black body emissivity, 1422
Body factor and subthreshold factor, 997
Body-tied, 377
Bonded SOI wafers, 1556
BPSOI, 1965
Breakdown, 1081, 1925, 2002
Breakdown field, 790
Breakdown voltage, 43, 437, 1370, 1632, 1965
Bulk, 377
Bulk traps, 1599
Bulk-Si MOSFET, 595
Buried p-layer, 1206
Buried silicide layers, 1556

Calcining temperature, 1029
Capacitance, 1118
Capacitance modeling, 976
Capacitance–frequency characteristics, 1135
Capacitor, 1767
Carbon doping, 802
Carbon nanotubes, 73
Carrier density, 834
Carrier mobility, 889
Carrier velocity, 155
Cascode, 329
Cathodoluminescence, 1662
$CaTiO_3$-$Nd(Mg_{1/2}Ti_{1/2})O_3$, 1921
CdTe, 991
CET, 524
Channel mobility, 896, 1900
Channel potential, 1754
Channelling, 1241
Characterization, 193, 1361, 1639
Charge loss, 97
Charge trapping in Al_2O_3, 716
Charge trapping memory, 1799
Chemical co-precipitation, 1029
Chemical vapour deposition (CVD), 1055
CIGS, 991
Circuit modeling, 871
Circuit simulation, 175, 567
CMIS inverters, 155
CMOS, 175, 986, 1198
CMOS compatible, 1933
CMOS standard process, 1172
0.1μm CMOS technology, 431
Code in place execution (XIP), 1867
Cole–Cole diagrams, 935
Colour stability, 1956
Compact modeling, 85, 1405
Complex band structure, 860
Concentration–recombination mechanism, 1302
Conductance switching memories, 1820
Conducting probe-AFM, 878
Conduction, 825
Confinement effect, 357
Contact resistance, 774
Contact resistivity, 227
Contact test structure, 1617
Continuous model, 1683
Coplanar waveguide, 491
Correlated mobility fluctuations, 907
Correlated noise model, 654
Correlation, 1449
Coulomb blockade, 1198, 1497
Coulomb scattering, 907
Critical charges, 1783
Cross-spectrum, 1361
Cross-talk, 1461
Cryogenic temperatures, 928
Cu doping, 3
Current collapse, 279
Current-blocking, 37
Cut-off frequency, 167, 301, 1488, 1951
C–V, 813
C–V characteristic, 1262
CYTOP™, 1708

D. Normal distribution, 940
DC, 567
DC current gain, 663
DCFL inverter, 628
Decanano-scaled MOSFETs, 1581
Deep level, 1135
Deep trench, 1623
Deep trench isolation, 1370
Defect, 1674
Defects, 283
2DEG, 459, 612
Delayed breakdown diode, 399
Density of interface states, 1917
Dependability, 1791
Design, 1466
Detectors, 1049
Device modeling, 663, 889, 1071, 1683
Device simulation, 1233, 1510, 1990
Device temperature, 1632
DG MOSFET, 595
Diamond, 1055
Diamond films, 1044
DIBL, 141, 377, 1274
Dielectric, 1767
Dielectric constant, 935
Dielectric dispersion, 1649
Dielectric phenomena, 562, 1996
Dielectric properties, 1163, 1921
Diffuse phase transition, 935
Diffusion length, 1662
Digital, 1466
Direct tunneling time, 923
Discretized energy levels, 860
DLTS, 1674
DMOS, 1098
Dopant diffusion, 618
Doping concentration, 109
Doping gradient, 1034
Double gate, 485
Double-gate devices, 965
Double gate MOSFET, 1569
Double-gate MOSFET, 271, 1510
Double gate silicon-on-insulator (DGSOI), 1034
Double gate SOI, 1504
Double-quantum-well, 1049
3D physical simulation, 1623
2D-QM effects, 1581
Drain current, 167, 301
Drain current model, 640
Drain current transients, 1536
Drain-induced-barrier-lowering (DIBL) effect, 479
DRAM, 1759, 1767
Drift-diffusion, 733
Drift–diffusion simulation, 1414
3-D simulation, 1435
3D Simulation, 1805
Dual-channel, 167
d*V*/d*t* effect, 2011
Dynamic voltage control, 1776
Dysprosium–manganese oxide, 1996

E. Photoluminescence, 940
Early voltage, 1488
E-beam, 825
EBIC, 1662
Edge termination, 437, 945
E/D-HEMT, 19
EEPROM, 1484
EEPROM cell model, 1484
Effective-doping concentration, 808
Effective mobility, 1320, 1942
Effective resistivity, 491
EKV, 485
Electric field, 1081

doi:10.1016/S0038-1101(05)00337-0

Electric field effects, 1978
Electrical and structural properties, 1213
Electrical characterization, 9, 109
Electrical modelling, 1623
Electrical overstress, 1925
Electrical properties, 902, 1044
Electrical traps, 1589
Electrode, 1767
Electroluminescence, 1693
Electromagnetic interferences, 1477
Electron-beam evaporation, 2016
Electron beam irradiation, 1163
Electron effective saturation velocity, 295
Electron high-field mobility, 1678
Electron mobility, 889
Electron transport, 1516
Electronic properties, 283
Electronic transport, 73
Electrostatic discharge, 1309
Electro-static discharge, 1925
Electrothermal, 1925
Electrothermal excitation, 63
Ellipsoidal valley, 31
Embedded flash memory (e-flash), 1867
Embedded memories, 1759
Emerging non-volatile memories, 1820
E-MESFET, 628
Enhancement mode, 453
E-PHEMT, 1708
Equivalent-circuit parameters, 1071
Erase, 1745
Erasing, 1974
Error detection and correction codes, 1791
ESD, 1153
ESD phenomena, 421
Etch-stop, 497
Excited states, 1112
Extended defects, 1168
Extrinsic illumination, 343

Facet, 2016
Fault tolerance, 1791
FD, 1262
FD-SOI, 1454
FD/SOI MOSFET, 595
Ferroelectric, 497
Ferroelectric memory, 497
FET, 802, 1049
Feynman sum-over-paths, 1604
Field effect, 1497
Field effect transistors, 279
Field-effect transistor, 73, 497
Film–substrate interface, 343
Filter, 853
Fin width, 763
FinFET, 377, 763, 1799
FINFET, 1435
FinFETs, 1488
Flash, 1799, 1849
Flash memory, 1745, 1841
Flat-band voltage, 1223
Flicker noise, 702
Floating body, 779
Floating body effect, 1547
Floating-body effect, 1759
Floating-body effects, 708
Floating body effect (FBE), 1536
Floating contact, 1655
Floating gate, 1805, 1841
Floating metal ring, 437
1/*f* fluctuation, 1449
1/*f* noise, 865, 907, 1335, 1556
Forward voltage drop, 834
Fowler–Nordheim, 825
Fowler-Nordheim injection, 1140

Frequency, 853
Frequency dispersion, 915
Frequency multiplication, 385
Frequency response, 554, 871
Fringe-induced barrier lowering (FIBL), 271
Fringing capacitance, 301
FT-IR technique, 1163
Full-chip heating, 1127
Full depletion, 779
Fully depleted, 1262, 1547
Fully depleted devices, 1034

GaAs, 245, 413, 878, 1077
GaAs epitaxial structure, 343
GaAs MESFET, 790
$GaAs_{0.51}Sb_{0.49}$ material, 956
Gadolinium–Indium oxide, 562
Gallium compounds, 1978
Gallium nitride, 889, 1678, 1693
GaN, 251, 279, 405, 413, 459, 670, 774, 802, 847, 865, 1135, 1330, 1347, 1381, 1387
Gas sensor, 1297
Gas sensors, 1330
Gas-sensing properties, 1029
Gate coupling, 1805
Gate current, 505
Gate dielectric, 213, 695
Gate interference, 1805
Gate leakage current, 19, 57
Gate size vs. non-uniformity length, 1192
Gate turn-off thyristor, 233, 2011
Gate voltage-dependent mobility, 648
Gate workfunction, 1034
Gate–drain charge, 965
Gate-induced floating body effect (GIFBE), 1536
GCS approach, 1581
Genetic algorithm, 1576
Germanium, 1090, 1942
Germanium-on-insulator, 1090
Gettering, 49
Graded channel, 1569
Graded-channel SOI MOSFET, 1683
Graded gap injector, 245
Group-IV photonics, 1172
Growth direction, 31
Gunn diode, 245

H_2, 1330
Hall factor, 31
HBT, 295, 956, 981, 1361, 1396, 1875, 1909
Heat generation, 77
HEMT, 1387, 1875
Heterojunction bipolar transistor, 251, 295, 357, 1292, 1335
Heterojunction bipolar transistors, 1071
Heterostructure, 245, 802
Heterostructures, 1693
HFCVD, 1044
HFET, 1589
HfO_2, 137, 524, 1833, 1849
HfSiON, 1849
High current, 77
High electric field stress, 1140
High performance, 1185
High resistivity substrate, 491
High sensitivity, 1933
High work function, 1857
High-κ, 193
High-k, 271
High-κ, 907
High-*k*, 695, 825, 1767, 1833
High-κ gate dielectric, 524
High-*k* gate dielectrics, 702
High-κ materials, 1841

High-*K* materials, 1849
High-*K* oxide, 283
High-frequency characterization, 1477
High-frequency effects, 747
High-power laser, 1674
High-speed, 1867
High-temperature, 1484
High-temperature operation, 1228
High-voltage CMOS integrated circuits, 1947
High-voltage termination, 945
Hole, 1454
Hole-blocking, 1595
Hooge noise parameter, 865
Hot carrier injection, 1370
Hot-carrier degradation, 1536
Hot-carrier stress, 1702
Hot Holes erase, 1862
4H–SiC, 945, 1081
4H-SiC, 2002
4H-SiC MESFET, 1206
Hydrodynamic modelling, 535
Hysteresis, 1547
Hysteresis-like breakdown, 1599

IC-interconnect modeling, 1604
Ideality factor, 1158, 1335, 1446
IGBT, 123
Illumination, 1599
Impact ionization, 421
IMPATT, 405
Impulse response, 1604
4-in. sapphire, 1632
4-in. Si, 1632
In-plane gates, 1990
$In_xGa_{1-x}N/InN$ heterostructure, 199
$In_{0.1}Ga_{0.9}N$, 1381
InAlAs/InGaAs heterostructure, 163
InAlAs/InGaAs/InAlAs heterojuction, 167
InAs, 1875
Indium–tin-oxide (ITO), 1381
Infrared camera, 1632
InGaAs/InP, 1002
InGaN, 1347
InGaN/GaN, 1153, 1905
InGaP/GaAs/InGaAs, 357
Ink-Jet Printing, 853
InP, 981
InP based HEMT, 163, 167
Input third-order intercept point (IIP3), 329
InSb, 1414
Insulating films, 562, 1996
Integrated antennas, 1477
Integrated circuit, 445
Integrated optoelectronics, 1697
Integrated passives, 747
Interband cascade structure, 1422
Interband tunneling, 257
Interconnects, 747
Interface, 283
Interface roughness scattering, 1454
Interface state density, 896
Interface-state density, 1223
Interface state recombination, 1282
Interface states, 9, 545, 2002
Interface traps, 491, 1140
Intermetallic compounds, 774
Interpoly dielectrics, 1841
Intervalley transfer, 245
Intra-chip wireless interconnects, 1477
Intrinsic channel, 640
Intrinsic delay, 479
Intrinsic instability, 257
Intrinsic parameter fluctuation, 740
Inverse narrow width effect, 301
Inversion, 1017

Ion beam assisted deposition, 205
Ion implantation, 981, 1734
Ion implanted Si, 1168
Ion-beam-assisted deposition, 838
IR scene generation, 1422
Isolation, 363
I–V, 813
I–V and *C–V* characteristics, 1052
I–V characteristics, 847
I–V curves, 1192

JFET, 445, 1900
Junction diode, 1228
Junction field effect transistor, 453
Junction isolated technology, 363
Junction isolation, 1217
Junction resistance, 205
Junction temperature, 37
Junction termination extension, 945

Kink, 915
Kink effect, 928
Kirk effect, 295, 1909
k-Value, 695

La_2O_3, 825
Large signal, 1909
Laser annealing, 131
Latch-up, 363, 1217
Lateral bipolar transistors (LBTs), 1556
Lateral field gradient, 267
Lattice temperature, 1925
LDMOS, 77
Leakage current, 695
Leakage reduction, 1776
LED, 1153, 1347
LF noise, 915
Lifetime, 49, 205, 838, 1662
Lifetime model, 505
LIGBT, 363
Light emitting diode, 37
Light-emitting diode, 1693
Light emitting diodes, 1422
Light-emitting diodes (LEDs), 1381
Light-emitting device, 1172
$LiNbO_3$ microdisk modulator, 1428
Linear extrapolation, 1179
Liquid phase, 213
LNA, 329
Low frequency noise, 1352, 1376
Low-frequency noise, 654, 907
Low-*k* dielectrics, 1708
Low noise devices, 928
Low power, 1714, 1849
Low temperature, 1274, 1569
Lowered source/drain (LSD), 479
LP-MOCVD, 163
LTLM structures, 1297

Macro model, 1813
Macromodel, 175
Magnetotransistor, 1302
Maximum frequency of oscillation, 1488
Maximum oscillation frequency, 1335
MBE, 802, 1875
Mechanical, 986
Memories, 1791
Memory, 1722
Memory architecture, 1714
Memory devices, 1728
Memory effect, 1547
Memory technology, 1714
MEMS, 63
MESFET threshold voltage, 343
MESFETs, 1978
Mesh, 1905
Metal gate, 1410, 1841
Metal gate with high work function, 716
Microwave amplifier, 245
Microwave dielectric properties, 1921
Microwave losses, 491
Microwave oscillator, 245
Microwave power bipolar transistor, 1292
MIM, 1767
Minority carrier diffusion length, 1969
Minority-carrier exclusion, 25
Minority carrier generation, 1599
Minority carrier injection, 1217
Mismatch, 818
MixedMode simulation spacer, 1034
Mobile devices, 1714
Mobility, 155, 684, 884, 1017
Mobility model, 85, 889
Mobility modeling, 1529
Mobility models, 727
MOCVD, 1347, 1387
Model, 123
Modeling, 239, 473, 558, 834, 1168
Modelling, 618
MODFET, 1352
Molecular beam epitaxy, 1961
Moment extraction, 1604
Monte Carlo, 405, 733, 1241, 1504, 1942
Monte-Carlo, 1090
Monte-Carlo analysis, 431
Monte-Carlo method, 727, 1529
Monte Carlo simulation, 1320
Morphology, 3
MOS, 213, 1118, 2002
MOS capacitor, 1917
MOS compact modeling, 640
MOS devices, 505, 1702
MOS transistor, 1140
MOS tunnel structure, 1192
MOS-structure, 545
MOSFET, 85, 193, 267, 377, 485, 654, 808, 818, 896, 976, 1090, 1179, 1255, 1320, 1547
MOSFETs, 529, 591, 727, 1017, 1376, 1951
Moving current filament, 421
MQW, 1347
MSM photodetector, 175, 459
Multi-quantum well, 1905
Multiple-valued logic, 357
Multiplier chips, 1649

Nanocontact, 227
Nanocrystal, 1722, 1974
Nano-crystal, 1754
Nanocrystal memory, 1745
Nanoelectronics, 1990
Nanoscale CMOS, 595
Nano-scale, 727
Nanoscale floating-gate, 1728
Nanostructure, 251
Nanowire, 227
NBTI, 57
NDR cells, 1185
Negative differential resistance, 357
NEGF, 1435
Ni, 774
Ni/Au, 459
$NiFe_2O_4$, 1029
Ni silicide, 606
Nitridation, 413, 896
Nitride, 1857
III-Nitrides, 1662
Nitride storage, 1862
Noise, 513, 1361
Noise analysis, 1396
Noise figure, 329
Noise model, 1376
Noise reduction, 1449
Non-diffusive contact, 1655
Non-doped devices, 708
Nonequilibrium Green's function, 1951
Non-equilibrium, 976
Non-isothermal MOSFET operation, 1127
Nonlinear modulation, 1428
Nonparabolic dispersion, 923
Non-radiative, 1446
Non-uniform trapping, 1754
Nonvolatile memory, 716, 1974
Non-volatile memories, 1805
Non-volatile memory, 1728, 1734, 1745, 1813, 1849, 1857
Non-volatile memory design, 1484
NROM, 1799
Numerical analysis, 239
Numerical modeling, 1951
Numerical simulation, 1098, 1900
NVM, 1799, 1862
NVSM, 97

OEIC, 1347, 1396
Ohmic, 670
Ohmic contact, 227, 865, 1937
Ohmic contact resistance measurement, 1655
Ohmic contacts, 1297
OLED, 205, 311, 838
Omega, 377
On-state resistance, 1081
One-dimensional electrical transport, 1497
OPFET, 628
Optical, 3
Optimisation, 453
Optoelectronic devices, 871
Ordering InGaP, 1391
Organic compounds, 1820
Organic TFT, 1009
Organic thin film, 813
Organic thin film transistors, 567
[100]-oriented growth, 1044
Over growth, 981
Oxidation, 896
Oxide and silicon film thickness, 109
Oxide charge, 1917
Oxide charge density, 109
Oxide-charge density, 1223
Oxide charges, 491
Oxide trap density, 654
Oxide trapped charge, 1140
Oxide traps, 1376
Oxynitride, 449

p-buffer layer, 517
p-Contact, 1905
p-GaN, 1213, 1969
p^+GaAsSb, 1655
pHEMT, 928, 1391
Parameter extraction, 473, 1009, 1071
Parameter-extraction, 123
Parametric amplifier, 385
Parasitic capacitance, 479
Partially depleted, 1262, 1274
Partially depleted (PD), 1536
Passivation, 838, 2016
PD, 774
pD, 1262
Pearson IV, 1241
Pentacene thin film transistors, 884
Performance, 1466
Phase noise, 1449
PHEMT, 213, 915
Phonon scattering, 1454
Photo-CVD, 1077

Photocapacitance, 343
Photoconductance decay techniques, 49
Photoconductivity, 1049
Photocurrent, 1112
Photodetector, 634, 1002, 1347, 1697
Photodiode, 871, 1172, 1347
Photodiodes, 1414, 1969
Photoreceiver, 1396
Photosensitivity, 634
Photovoltage, 628
Physical simulation, 956
Picosecond switch, 399
Piezoelectric, 219
p–i–n, 1002
Pinch off voltage, 517
PISCES-IIB, 663
Plackett–Burman design of experiment, 431
Planar in-plane gate diode, 1990
Plasma, 1589
Plasma etching, 1576
Plasma nitridation, 524
Plasma nitrided oxide, 57
Plasma processing and deposition, 369
Plasmons, 1049
p–n Diode, 1446
p–n homojunction, 1158
Point defect clustering, 618
Polarization, 251
Polarization effect, 199
Poly-crystalline silicon, 301
Poly-Si, 1376
Poly-Si TFT, 558
Polyimide substrates, 578
Polymer, 445, 853
Polyoxide, 2002
Polypropylene, 1163
Polysilicon, 513
Potential barrier, 634
Power amplifiers, 1947
Power device, 1387, 2006
Power devices, 77, 1370
Power diodes, 183
Power IC, 1217
Power MOSFETs, 965
Power technology, 1617
Pre-amorphization implantation, 131
Predictive modeling, 85
Pre-treatment, 1589
Process variations, 1783
Program, 1745
Programmable metallization cell, 1813
Programming, 1974
Propagation delay time, 155
Proton irradiation, 183
Pseudomorphic HEMTs, 535
PSII, 449
Pt/Ag/Au ohmic contacts, 1213
Pt/Ti/Pt/Au, 1655
Pulse width modulation, 1947
PVT epitaxy, 1917

QM effects in poly-gates, 1581
QMPS solar cell, 1282
Quantum-cascade lasers (QCLs), 1961
Quantum dot, 1198
Quantum effects, 654, 1118, 1435, 1454
Quantum Hall, 1516
Quantum-mechanical, 1017
Quantum transport, 239, 1510
Quantum well, 1516

Radiation effects, 1783
Radio frequency, 1233
Raised source/drain, 529
Raised source/drain (RSD), 479
Rapid thermal oxynitride oxide, 57
Rapid thermal processing, 1599
Read disturb, 716
Recombination, 991
Recombination current, 1446
Recombination efficiency, 311
Reliability, 505, 1466, 1702, 1849, 2016
Resistivity, 3
Resonant cavity enhanced, 1697
Resonant tunneling diode, 239
Resonant tunneling diodes, 257
Resonator, 63
Response-surface-modeling, 431
RESURF, 43
Retention, 97, 1974
Reverse-recovery, 183
Reverse-VARIOT, 1841
RF, 1488
RF device, 1055
RF power MESFET, 517
RF-optical receiver, 1428
RIE, 497
RLC circuit networks, 1604
RTD, 1875

Sampling calibration of profiles, 1241
Sapphire, 1153
Saturation region, 1206
Saturation velocity, 155
SBT, 497
Scalable compact model, 1623
Scale length, 808
Scaled CMOS, 1759
Scaling, 479, 1841
Scaling limit, 271
Scattering mechanisms, 1529
Scattering parameter, 654
SCE, 377
Schottky barrier, 1969
Schottky barrier diodes, 437
Schottky barrier height inhomogeneities, 878
Schottky contacts, 73
Schottky diode, 413, 606, 847
Schottky diodes, 585, 945, 1052, 1330
Schottky photodiode, 117
Schrödinger equation, 239
SCLC, 813
SCLS mechanism, 562
Segregation, 137
Selective epitaxy, 529
Selective hydrogen pretreatment, 19
Selfgating, 1990
Self-heating, 1274, 1292, 1632
Self-heating effects, 421
Self-homodyne, 1428
Semiconducting gallium compounds, 1961
III–V semiconductors, 279
Semiconductor closing switch, 399
Semiconductor device simulation, 1678
Semiconductor devices, 558, 1309, 1978
Semiconductor epitaxial layers, 591
Semi-transparent contact, 459
Sensitivity, 1302, 1396
SER, 1783
Shallow traps, 19
Sheet carrier density, 167
Shift and ratio, 763
Short channel effects, 301, 1862
Short-channel effect, 808
Short-channel effect (SCE), 479
Short-channel-effect, 431
Shot-noise, 405
Si BJT, 986
SiC, 251, 1017, 1900
SiC/SiO_2-interface, 545
SiGe, 193, 449
Si-Ge alloys, 591
SiGe buffer layers, 1669
SiGe collector, 2006
SiGe HBT, 986, 1292
SiGe HBTs, 329
Si/SiGe heterojunction, 2006
SiGe heterojunction bipolar transistor (SiGe HBT), 1556
Si nanocrystals, 1734
Signed-digit full-adder (SDFA), 1185
SILC, 57
Silicide, 1488, 1974
Silicon, 175, 654, 1697
Silicon carbide, 233, 437, 517, 585, 663, 896, 1223, 1228, 1297, 1937, 2011
Silicon dioxide, 369
Silicon epitaxy, 529
Silicon film, 25
Silicon nanocrystal, 1198
Silicon nanocrystals, 1112
Silicon nanostructures, 1497
Silicon on glass, 1461
Silicon on insulator (SOI), 1556
Silicon on insulator (SOI) MOSFETs, 1536
Silicon oxynitride, 97
Silicon-on-insulator, 1090, 1262, 1274, 1516, 1569, 1697
Silicon-on-insulator (SOI), 727, 1529, 1547
Silicon-to-silicon direct bonding, 9
Simulation, 747, 889, 945, 1002
Single and double step gate recess, 535
Single-electron effects, 1728
SiO_2, 1077
SiO_2 thickness variation, 1192
Size effects, 1722
Small granular control, 1776
Small-signal ac response, 1951
Small-signal parameters, 779
Smart power, 1217
Smart power devices, 421
Snapback, 1925
SnS films, 902
SOC, 1867
Soft-errors, 1783, 1791
SOI, 43, 491, 684, 1233, 1255, 1262, 1461, 1466, 1497
SOI MESFET, 141
SOI MOSFETs, 708, 997
SOI-MOS capacitor, 109
SOI-MOSFET, 779
SOI technology, 109
Solar cell, 991, 1314
Solar-blind, 117
Solid electrolyte, 1813
SON-MOSFET, 1639
SONOS, 97, 1799, 1849, 1857
SOS, 1461
Space-charge limited, 825
Space-charge-limited current, 847
Spacer thickness, 554
Specific contact resistance, 227, 1617, 1937
Specific on-resistance, 1965
Spectroscopy, 1213
Spice, 123
Spiral inductor, 473
Split-gate, 1862
Spray pyrolysis, 902
Spreading resistance, 275
Sputtering, 219
Sputtering deposition, 2006
SRAM, 1776, 1783
Stability, 578
Standard deviation, 818
Static induction transistor, 1233

Static noise margin, 740
Statistical analysis, 1192
Statistical compact model parameter extraction, 740
Statistical experimental design, 1576
Statistical-process-control, 431
Step compositional emitter, 357
Stochastic algorithm, 1604
Strain, 251, 986
Strained semiconductor, 31
Strained Si, 684
Strained-Si, 1320
Strained Si MOSFETs, 1669
Strained-silicon-on-insulator, 1090
Sub-band, 684
Submicron, 85
Substrate current, 363, 505, 1206
Substrate injection, 1599
Substrate network, 1623
Substrate resistance modelling, 275
Subthreshold slope, 85
Subthreshold swing, 860
Subthreshold voltage, 141
Surface passivation, 1352, 1589
Surface plasmons, 1697
Surface potential, 267, 275
Surface potential pinning, 1179
Surface recombination velocity, 663
Surface roughening, 1422
Surface states, 612
Surface trapping, 279
Surface treatment, 1335
Switch, 357, 1391
Switch-on, 233, 2011
Switching amplifiers, 1947
Switching traps, 1140
Symmetric DG MOSFET, 640
System on a chip, 1461

TCAD, 453, 1002
TCE oxidation, 1223
TDDB, 57
TED, 618
Temperature, 301, 1158
Temperature coefficient, 1098
Temperature dependence barrier height, 1052
Temperature sensor, 25
TEOS (tetraethoxysilane), 369
Terahertz, 1049
Terahertz oscillator, 257
Test circuit, 818
TFT, 301
TFT modeling, 1009
TFTs, 513
Thermal, 1909
Thermal analysis, 1127
Thermal conductivity and activation energy, 902
Thermal dissipation, 1153
Thermal evaporation, 813
Thermal mapping, 421
Thermal resistance, 1274
Thermal stability, 1937
Thermally stimulated current, 545
Thin film, 219
Thin film transistor, 578
Thin film transistors, 1376
Thin-film transistor model, 648
Three-dimensional simulation, 1255
Threshold voltage, 271, 301, 818, 1098, 1179
Threshold voltage roll-off, 808
Ti capping, 606
TIGBT, 834
Time dependent, 567
TLM, 1655
Toluene, 1029
Transcapacitance, 1909
Transconductance, 167, 301, 485
Transconductance per current, 1951
Transfer function, 871
Transient carrier injection, 1217
Transient enhanced diffusion, 131
Transient substrate current, 1405
Transient voltage suppressors, 1309
Transistor, 1449
Transistor mismatch, 431
Transistor model, 1255
Transit time, 295, 301
Transport parameters, 1282
Trap distribution, 97
Trap effect, 1172
Trap effects, 1206
Trapezoidal barrier, 923
Trapped charge, 733
Trapping mechanisms, 928
Trench IGBT, 2006
Trench MOSFET, 1081
Trench semiconductor devices, 965
Tri-gate transistor, 1799
Tunnel oxide, 1833
Tunneling, 702, 860, 1158
Tunnelling, 991
Two-dimensional electron-gas (2DEG), 199
Two-dimensional model, 25
Type-II heterostructures, 257

Ultra-shallow junction, 131
Ultra-thin body, 479
Ultra-thin channel, 1435
Ultra-thin silicon, 1034
Ultra-thin silicon thicknesses, 1529
Undoped body MOS, 640
Unified analytical charge model, 1581
UV detector, 1135

Varactor, 385
Variable range hopping, 567
VCR, 123
Velocity modulation transistor, 1504
Via hole, 1153
Virtual gate, 279
Voltage-controlled oscillator, 63
Volterra series, 329
Volume inversion, 1488

White organic electroluminescent device, 1595
White organic light-emitting device, 1956
Wide band gap semiconductor, 1206
Wide bandgap semiconductors, 279
Wigner distribution function, 239
Wigner equation, 1510
Wigner phase time, 923
Work function, 1410

X-ray diffraction, 3, 1213, 1961

Zinc oxide, 1693
Zinc telluride, 3
Zirconium nitride, 1410
ZnO, 1158
ZnPc, 813, 1314